

*Stated Meeting, November 20.*

Present, thirty-three members.

Mr. DU PONCEAU, President, in the Chair.

The following donations were received:—

## FOR THE LIBRARY.

- Catalogue of the Scientific Books in the Library of the Royal Society. 8vo. London, 1839.—*From the Society.*
- Philosophical Transactions of the Royal Society of London, for the Year 1840.—Part I. 4to. London, 1840.—*From the same.*
- Proceedings of the Royal Society. Nos. 42, 43, and 44. Feb. 27 to June 18, 1840.—*From the same.*
- List of Councils, Fellows, &c., of the Royal Society, Nov. 30, 1839. 4to.—*From the same.*
- Report of the Committee of Physics, including Meteorology, on the Objects of Scientific Inquiry in those Sciences, &c. &c. 8vo. London, 1840.—*From the same.*
- Report of the Seventh Meeting of the British Association for the Advancement of Science; held at Liverpool in September, 1837. Vol. VI. 8vo. London, 1838.—*From the Association.*
- Report of the Ninth Meeting, &c. &c., held at Birmingham, August, 1839. 8vo. London, 1840.—*From the same.*
- Constitution and By-Laws of the National Institution for the Promotion of Science, established at Washington, May, 1840. 8vo. pp. 14. Washington, 1840.—*From the National Institution.*
- On the Diminution of Temperature with Height in the Atmosphere, at different Seasons of the Year. By James D. Forbes, Esq., F.R.S.S. L. and E., F.G.S. &c. &c. (From the Transactions of the Royal Society of Edinburgh. Vol. XIV. Read April 1, 1839.) 4to. Edinburgh, 1840.—*From the Author.*
- Account of some additional Experiments in Terrestrial Magnetism, made in different parts of Europe in 1837. By James D. Forbes, &c. &c.—*From the same.*
- The Philosophical Transactions of the Royal Society of London, from their Commencement in 1665, to the Year 1800: abridged, with Notes and Illustrations. By Charles Hutton, LL.D., F.R.S.; George Shaw, M.D., F.R.S., F.L.S.; and Richard Pearson,

- M.D., F.S.A. 19 Vols. 4to. London, 1809.—*From Mr. Thomas Gilpin.*
- Lettres et Negotiations entre Mr. Jean De Witt, &c. &c., et Messrs. les Plenipotentiaires des Provinces Unies des Pais Bas. aux Cours de France, d'Angleterre, de Suède, de Danemarc, de Pologne, &c., depuis l'Année, 1652, jusqu'a l'An. 1669, inclus., &c. &c. 3 Vols. Traduites du Hollandois. 12mo. Amsterdam, 1725.—*From Mr. Du Ponceau.*
- Resolutions Importantes de leurs Nobles et Grandes Puissances les États de Hollande et de West-Frise, pendant le Ministère de Mr. Jean De Witt, Conseiller-Pensionnaire, Traduites du Hollandois, &c. 12mo. Amsterdam, 1725.—*From the same.*
- Miscellaneous Papers on Political and Commercial Subjects, &c. &c. By Noah Webster, Jun. 8vo. New York, 1802.—*From the same.*
- Pamphlets. 1. First and Second Annual Reports of the Aborigines Protection Society, &c. &c. 8vo. London, 1838, 1839. 2. Extracts from the Papers and Proceedings of the Aborigines Protection Society, No. 1, May, 1839; No. 2, June, 1839. 3. Report on the Indians of Upper Canada. 4. The History, Antiquities, Topography, and Statistics of Eastern India, &c. &c. By Montgomery Martin, &c. London, 1838.—*From the same.*
- Mémoire sur les Moyens qui ont amené le Grand Développement que l'Industrie Française a pris depuis vingt ans, &c. &c. Par Cl. Anthelme Costaz, &c. &c. 8vo. Paris, 1816.—*From Mr. Vaughan.*
- Lettres sur l'Amérique du Nord, par Michel Chevalier avec une Carte des États-Unis d'Amérique. Édit. Speciale, revue, corrigée et augmentée de plusieurs Chapitres. 2 Vols. 8vo. Paris, 1837.—*From the same.*
- Travels in Europe, viz.—in England, Ireland, Scotland, France, Italy, Switzerland, Germany, and the Netherlands. By Wilbur Fisk, D.D., &c. &c., with Engravings. Fourth Edition. 8vo. New York, 1838.—*From the same.*
- M. Tullius Cicero, of the Nature of the Gods, in three Books; with Critical, Philosophical, and Explanatory Notes. By the Rev. Dr. Francklin. New Edition, &c. 8vo. London, 1775.—*From the same.*
- A Grammar of the German Language, systematically arranged on a New Plan, Brief, Comprehensive, and Practical. By Caspar J.

- Beleké, Professor of the German Language and Literature in Mount St. Mary's College, Emmetsburg, Md. 12mo. Philadelphia, 1840.—*From the Author.*
- The War in Florida; being an Exposition of its Causes, and an Accurate History of the Campaigns of Generals Clinch, Gaines, and Scott. By a late Staff Officer. Small 8vo. Baltimore, 1836.—*From Col. Davenport.*
- Eleven Annual Reports of the Inspectors of the Eastern State Penitentiary of Pennsylvania. 1831—1840.—*From Mr. George Thompson.*
- Antiquarian Researches, comprising a History of the Indian Wars in the Country bordering Connecticut River and Parts adjacent, and other Interesting Events, from the First Landing of the Pilgrims, to the Conquest of Canada, by the English, in 1760, &c. &c. By E. Hoyt, Esq. 8vo. Greenfield, Mass. 1824.—*From Mr. Henry Williams.*
- A Second Appeal to the People of Pennsylvania, on the Subject of an Asylum for the Insane Poor of the Commonwealth. 8vo. Philadelphia, 1840.—*From Dr. Dunglison.*
- The American Medical Library and Intelligencer, &c. &c. By Robley Dunglison, M.D., Sec. A. P. S. No. 12 and 13. Sept. 15, Oct. 1, 1840.—*From the same.*
- The Magazine of Natural History. New Series. No. 43, for July, 1840. Conducted by Edward Charlesworth, F.G.S., &c. No. 44, for Aug. 1840. By Richard Taylor, F.L.S., &c.—*From Mr. Taylor.*
- A Selection of Church Music, printed for the Pennsylvania Institution for the Instruction of the Blind, with Type on an Improved Plan, invented by M. Snider, Printer to the Institution; arranged and figured for Thorough-base. By F. Rasche, Teacher of Music in the Institution. Vol. I. Folio. Philadelphia, 1840.—*From Mr. Snider.*
- The State of the Science of Political Economy Investigated; wherein is shown the Defective Character of the Arguments which have hitherto been advanced for Elucidating the Laws of the Formation of Wealth. By Wm. Atkinson, &c. &c. London, 1838.—*From Mr. H. C. Carey.*
- Letters addressed to the People of the United States, in Vindication of his Conduct. By Wm. J. Duane, late Secretary of the Treasury. 1834.—*From the same.*

Letters on the Factory Act, as it affects the Cotton Manufacture, &c. &c. By Nassau W. Senior, Esq., &c. &c. 8vo. London, 1837.—*From the same.*

A letter was read from Mr. F. Markoe, Jr., Corresponding Secretary of the National Institution for the Promotion of Science, recently established at Washington, addressed to the Secretaries of the Society, announcing, officially, to the Society, the fact of the foundation of the Institution at the seat of government, and the objects which it has in contemplation; and soliciting for the Institution the correspondence of the Society, and its co-operation and aid in promoting the objects with which the Institution was founded:—

Whereupon, the Secretaries were directed to reply, that the National Institution would be enrolled in the list of correspondents of the Society, and that the Transactions and Proceedings of the Society would be regularly transmitted to it.

Dr. Patterson, from the Observatory Committee, reported, that an ordinance had passed the City Councils, authorizing the erection of an Astronomical Observatory within Rittenhouse Square.

Professor Bache read a continuation of the paper of Professor Loomis on Magnetic Dip and Intensity, the reading of which was commenced at the last meeting. It was referred to the Committee which has the first portion under consideration.

Professor Henry read the sequel of his communication, entitled "Contributions to Electricity and Magnetism, by Joseph Henry, LL.D., &c. &c., Professor of Natural Philosophy in the College of New Jersey, Princeton. No. IV. On Electrodynamical Induction (continued)," which was referred to the same committee as the former "Contributions."

Mr. Cresson exhibited specimens of naphthaline, obtained by a kind of irregular crystallization from the liquid produced by the distillation of coal tar at a high temperature.

Prof. Bache stated, that along with Messrs. Walker, Kendall, Cresson, Frazer, and a pupil of the High School, he had watched for meteors or shooting stars, at the High School, on the nights of Nov. 12-13, and 13-14, and met with the

usual negative results of the observations before made in Philadelphia.

On the evening of the 11th, clouds came up from the E. N. E. soon after 9 o'clock, and finally covered the whole sky, which remained overcast during the night. On the nights of the 12th-13th, and 13th-14th, the sky was remarkably clear, except towards the horizon, on the morning of the 13th, and during a small part of the morning of the 14th.

From 11 to 12 on the night of the 12th, there were three observers; and the space embraced by their observations was that part of the visible heavens from the east round to the north, through the south. The moon was up, having passed the full about two days. During this hour six meteors were counted. From 12 until 4 A. M. of the 13th, there were two observers taking in a range of rather more than half the visible heavens. Eighteen meteors were counted, namely, nine between 12 and 1, three between 1 and 2, and six between 2 and 4 A. M. The paths of nine of these meteors were ascertained to converge to the region occupied by the head of the Lion, eight were variously directed, seven were doubtful or not ascertained. Of all the meteors seen, one appeared as large as Sirius seen by the naked eye, three as stars of the first magnitude, one of the second, three of the third, five of the fourth, and three of the fifth; the magnitudes of eight were not noted.

Two observers were on the watch on the evening of the 13th and morning of the 14th, from 11 o'clock until 4, except for half an hour at 2 A. M., the portion of the sky embraced in the observations being from the east to the west, through the south. The total number of meteors counted was seventeen. The paths of eight of these passed, when produced, towards the Lion's head, seven were in other directions, two not noted, or doubtful. Three were of the second magnitude, six of the third, five of the fourth, and one of the fifth; two were not noted.

The apparent velocities noticed of meteors having a common radiant, or nearly so, were as follows:—

Path of  $8^{\circ}$  described in  $.8''$  from  $\gamma$  Pegasi, vertically downwards.

$3^{\circ}$  to  $4^{\circ}$  in  $.7''$  from  $\alpha$  Andromedæ, downwards.

$17\frac{1}{2}^{\circ}$  in  $.4''$  obliquely from a point midway between the Pleiades and Aldebaran, on a line which, if produced, would pass through Castor.

Dr. Horner called attention to the noise and shock observed about 9 o'clock on Saturday evening last (Nov. 14), which were supposed by some to be those of an earthquake. Judge Hopkinson referred to a statement, that the phenomena were supposed to be produced by the explosion of a near meteor. Mr. Nicklin mentioned facts, which induced him to think there had been a slight shock of an earthquake at the time mentioned. Dr. Chapman and Mr. Cresson attributed the rumbling noise and shock to thunder. Dr. Chapman had noticed a flash of lightning near the horizon, which was followed by thunder. Mr. Cresson had noted an interval of nearly two minutes between the flash of lightning and the clap of thunder.

Prof. Henry described an apparatus for producing a reciprocating motion by the repulsion in the consecutive parts of a conductor, through which a galvanic current is passing; and made some remarks in reference to the electro-magnetic machine invented by him in 1829, and subsequently described by Dr. Ritchie, of London. The machine referred to had been applied recently by Prof. Henry in his experiments.

Mr. Fisher announced the death of Benjamin R. Morgan, a member of the Society, who died on Nov. 19.

Dr. Patterson stated on behalf of Mr. Gillies, of Washington—introduced at the meeting as a member of the National Institution of Washington—that he had watched for meteors at Washington on the nights of the 11th, 12th, 13th, and 14th of November, but had failed to observe any on these occasions.

Prof. Bache communicated an extract of a letter from Prof. Rümker, Director of the Observatory of Hamburg, which contained the results of his observations of Galle's first comet, and occultations observed in April, May, June, and August, 1840.

| 1839.              | Mean Time at Hamburg. | Apparent AR of Comet. | Apparent Declination of Comet. | Number of Observations. | Apparent Position of Compared Stars. |                              |
|--------------------|-----------------------|-----------------------|--------------------------------|-------------------------|--------------------------------------|------------------------------|
|                    |                       |                       |                                |                         | Stars' apparent AR.                  | Stars' apparent Declination. |
| 10 December        | 16 23 39.93           | 13 52 37.457          | + 0 27 5.70                    | 7                       | 13 51 29.987                         | + 0 36 41.69                 |
|                    | 18 4 33.76            | 13 53 18.895          | 28 5.12                        | 1                       | 13 51 32.694                         | 0 49 44.42                   |
|                    |                       |                       |                                |                         | 13 54 22.953                         | 0 49 10.05                   |
| 14 December        | 16 22 7.34            | 14 31 59.396          | + 1 39 28.08                   | 5                       | 14 28 24.131                         | + 1 45 19.39                 |
|                    |                       |                       |                                |                         | 14 30 6.264                          | 1 34 49.44                   |
|                    |                       |                       |                                |                         | 14 37 20.656                         | 1 23 41.84                   |
|                    |                       |                       |                                |                         | 14 38 56.172                         | 1 38 42.26                   |
| 25 December        | 19 4 17.893           | 16 13 56.08           | + 3 22 6.28                    | 8                       | 16 14 12.633                         | + 3 15 19.94                 |
|                    |                       |                       |                                |                         | 16 14 17.976                         | 3 27 56.03                   |
| 28 December        | 18 36 30.58           | 16 37 37.126          | + 3 18 46.68                   | 3                       | 16 37 44.606                         | + 3 11 29.95                 |
|                    | 19 14 44.16           | 16 37 49.663          | 3 18 9.17                      | 2                       | 16 37 54.385                         | 3 4 57.74                    |
|                    |                       |                       |                                |                         | 16 40 17.438                         | 3 1 30.22                    |
| 29 December        | 17 4 13.93            | 16 44 42.317          | + 3 14 19.28                   | 3                       | 16 43 27.640                         | + 3 12 16.89                 |
|                    |                       |                       |                                |                         | 16 45 13.424                         | 3 17 18.51                   |
| 1840.<br>4 January |                       |                       |                                |                         | 17 22 29.946                         | + 2 9 22.17                  |
|                    | 17 49 15.85           | 17 26 17.213          | + 2 23 30.42                   | 10                      | 17 22 38.602                         | 2 27 12.28                   |
|                    |                       |                       |                                |                         | 17 23 49.909                         | 2 22 29.20                   |
|                    |                       |                       |                                |                         | 17 24 18.048                         | 2 10 34.13                   |
|                    |                       |                       |                                |                         | 17 24 22.025                         | 2 31 52.69                   |
| 5 January          | 17 41 29.78           | 17 32 31.084          | + 2 11 58.07                   | 3                       | 17 30 59.317                         | + 2 8 55.01                  |
|                    |                       |                       |                                |                         | 17 31 2.991                          | 2 7 19.08                    |
|                    |                       |                       |                                |                         | 17 31 50.266                         | 2 6 38.84                    |
| 6 January          |                       |                       |                                |                         | 17 39 9.522                          | + 1 53 20.01                 |
|                    | 17 56 29.89           | 17 38 40.337          | + 1 58 52.01                   | 16                      | 17 39 31.944                         | 1 50 30.22                   |
|                    |                       |                       |                                |                         | 17 40 39.371                         | 1 49 1.42                    |
|                    |                       |                       |                                |                         | 17 41 13.764                         | 2 0 44.12                    |
|                    |                       |                       |                                | 17 44 27.507            | 1 45 0.75                            |                              |

|             |              |              |              |                              |   |   |
|-------------|--------------|--------------|--------------|------------------------------|---|---|
| 8 January   | 18 18 9.53   | 17 50 28.758 | + 1 30 54.70 | 15                           | 17 47 59.205<br>17 51 23.084<br>17 52 13.499<br>17 53 37.164            | + 1 27 31.08<br>+ 1 34 31.33<br>+ 1 37 16.71<br>+ 1 18 45.14          |
| 9 January   | 18 13 18.80  | 17 56 5.600  | + 1 16 21.12 | 10                           | 17 53 37.184<br>17 56 23.938  | + 1 18 44.99<br>+ 1 13 54.69  |
| 10 January  | 18 19 49.87  | 18 1 36.743  | + 1 0 51.489 | 19                           | 18 0 26.800<br>18 1 31.193<br>18 2 15.637<br>18 3 32.293<br>18 5 33.517 | + 0 41 44.89<br>+ 0 47 50.57<br>0 46 3.82<br>0 46 47.63<br>0 38 37.75 |
| 11 January  | 18 52 4.70   | 18 7 4.540   | + 0 45 4.37  | 7                            | 18 5 33.526<br>18 8 55.993  | + 0 38 37.66<br>+ 0 57 9.76   |
| 12 January  | 18 18 25.36  | 18 12 9.719  | + 0 29 35.40 | 16                           | 18 9 57.366<br>18 10 29.575<br>18 11 16.032                             | + 0 47 50.24<br>0 41 40.95<br>0 46 44.50                              |
| 13 January  | 18 32 14.97  | 18 17 18.786 | + 0 13 1.21  | 14                           | 18 19 0.541<br>18 19 37.832<br>18 21 4.867                              | + 0 6 13.50<br>+ 0 6 16.66<br>+ 0 13 22.95                            |
| 14 January  | 18 15 17.68  | 18 22 12.686 | - 0 3 9.028  | 8                            | 18 19 0.561<br>18 19 37.851<br>18 21 4.885<br>18 22 25.701              | + 0 6 13.31<br>+ 0 6 16.52<br>0 13 22.81<br>0 16 26.05                |
| 17 January  | 17 48 49.85  | 18 36 21.422 | - 0 53 20.42 | 4                            | 18 38 12.035  | - 1 7 38.56   |
| 18 26 33.84 | 18 36 28.285 | - 0 53 41.99 | 3            | 18 40 58.875<br>18 43 21.286 | - 1 9 32.47<br>- 1 13 50.53   |   |
| 18 43 46.66 | 18 45 26.533 | - 1 27 12.03 | 4            | 18 57 0.326                  | - 1 45 3.59   |   |
| 18 37 1.19  | 18 53 58.738 | - 1 59 42.44 | 2            | 18 58 37.939                 | - 1 58 41.10  |   |
| 18 38 58.60 | 18 58 6.639  | - 2 16 23.92 | 1            | 19 33 20.046<br>19 36 47.391 | - 4 39 35.04<br>- 4 54 23.53  |   |
| 18 16 33.06 | 19 38 28.796 | - 5 0 40.85  | 1            | 19 42 19.830<br>19 45 45.551 | - 5 5 47.89<br>- 5 27 34.24   |   |
| 18 14 45.53 | 19 44 57.405 | - 5 26 57.39 | 1            |                              |   |   |



The places of the stars are the apparent places for the time of comparison with the comet.

Prof. Bache also reported the following occultations of fixed stars by the Moon, observed by Prof. Rümker in Hamburg.

| 1840.    | Star.             | Phase.  | Mean Time at Hamburg. |
|----------|-------------------|---------|-----------------------|
| April 11 | $\gamma$ Leonis   | Immers. | 10 34 58.29           |
| 22       | $\tau$ Sagittarii | Immers. | 16 13 20.77           |
| May 4    | Anon.             | Immers. | 10 30 16.97           |
| June 3   | $\eta$ Cancri     | Immers. | 9 48 30.98            |
| Aug. 24  | } * Cancri        | Immers. | 16 13 35.8            |
|          |                   | Immers. | 16 16 7.9             |

*Stated Meeting, December 4.*

Present, thirty members.

Mr. DU PONCEAU, President, in the Chair.

The following donations were received:—

FOR THE LIBRARY.

- A History of the United States before the Revolution; with some Account of the Aborigines. By Ezekiel Sandford. 8vo. Philadelphia, 1819.—*From Mr. Du Ponceau.*
- The Resources of the United States of America; or a View of the Agricultural, Commercial, Manufacturing, Financial, Political, Literary, Moral, and Religious Capacity and Character of the American People. By John Bristed, Counsellor at Law, &c. &c. 8vo. New York, 1818.—*From the same.*
- History of the late Polish Revolution, and the Events of the Campaign. By Joseph Hordynski, Major of the late 10th Regiment of Lithuanian Lancers. 8vo. Boston, 1832.—*From the same.*
- Memoirs of Goethe, written by himself. 8vo. New York, 1824.—*From the same.*
- The History of the Administration of John Adams, Esq., late President of the United States. By John Wood, Author of the History of Switzerland, &c. 8vo. New York.—*From the same.*